5th Grade Digital Literacy & AI Course Syllabus

One Year for Elementary School, 30 Hours

Course Overview and Goals

The **Digital Literacy & AI Course** introduces students to essential digital skills and foundational computer science concepts needed to thrive in today's technology-driven world. Throughout the course, students build problem-solving skills and responsible technology practices while engaging in hands-on activities and real-world applications. They will develop an understanding of artificial intelligence, digital tools, online safety, and emerging technologies, building a strong foundation in digital literacy. This flexible course can be taught in any order to meet the needs of diverse classrooms.

Learning Environment: This course is designed to be teacher-led, with ready-to-use lesson plans that follow a structured format: **Introduction, Guided Practice, Independent Practice, Extension, and Reflection**. Lessons are built with spiral review to reinforce key concepts and culminate in engaging projects to showcase student understanding.

The lessons are delivered in an **"I do, we do, you do"** format, ensuring a gradual release of responsibility and fostering confidence in students as they learn. Teachers can adapt the content to fit their schedule and instructional needs. The concepts taught in this course spiral across grade levels, ensuring that students can revisit and build upon their understanding year after year, even if all lessons are not completed within a single year. The course includes a total of **30 lessons**, each approximately 45 minutes long.

Programming Environment: Students will write and run programs that are saved in students' accounts. The environment supports interactive, hands-on programming, enabling students to create and debug projects in a user-friendly interface.

Assessments: Some units conclude with a brief five-question quiz designed to assess student understanding of the concepts and skills introduced in the unit. Quizzes can be assigned digitally, completed as a QuizBuzz activity, or printed for paper-based completion.

Prerequisites: There are no prerequisites for this course. It is designed to support all learners, regardless of prior computer science experience.

More Information: Browse the content of this course at https://codehs.com/course/28008/explore



A clickable PDF can be found at https://codehs.com/DigLit_Roadmap

Course Breakdown

Unit 1: Getting Started (2 lessons)

In this module, students learn to log in and navigate the CodeHop Playground and are introduced to basic programming concepts to create interactive scenes with characters.

Objectives / Topics Covered	● Log in and navigate the CodeHop Playground independently. ● Explore the programming interface to create a simple programmed scene with characters.
Lessons	**Welcome to CodeHop!** (optional) ● Learn how to log in and use the CodeHop Playground. This short introductory lesson can be used on its own or right before a full lesson. **Introduction to Computer Science** ● Define important computer science vocabulary and create a simple program. **Getting Started Quiz (5 questions)**

Unit 2: Computing Systems (5 lessons)

In this module, students examine how computing systems are built, explore spreadsheets, and how networks operate using protocols.

Objectives / Topics Covered	● Identify computing system components and basic hardware/software issues. ● Use documents, spreadsheets, and presentations to persuade an audience. ● Organize information clearly and effectively. ● Explain how network protocols transfer data.
Lessons	**Practicing with Computing Systems** (E5-SYS-HW-12) ● Identify parts of the computing system and identify simple hardware and software problems. **Exploring Google Sheets™or Microsoft Excel™** (E5-DAT-DC-09) ● Enter, organize, and visualize data in a spreadsheet. **Persuasive Productivity Software Project** (2 classes) ● Use word processing, spreadsheet, and presentation software to organize and present information to persuade an audience. **Networks Connections** (Unplugged | E5-SYS-NT-14) ● Explain how network protocols enable data transfer and compare WiFi, wired, and cellular networks. **Computing Systems Quiz (5 questions)**

Unit 3: Safety & Responsibility (9 lessons)

This module focuses on helping students become safe, responsible, and respectful digital citizens.

Objectives / Topics Covered	● Identify and explain how to report cyberbullying. ● Demonstrate solutions to cybersecurity and privacy challenges. ● Solve simple cryptography problems. ● Describe cybersecurity policies and laws. ● Define and maintain a positive digital footprint. ● Demonstrate proper digital etiquette and teamwork. ● Create a healthy screen-time plan supported by evidence.
Lessons	**Reporting Cyberbullying** ● Recognize and compare types of cyberbullying and explain how online interactions can escalate. Students will be able to identify impacts and demonstrate how to report cyberbullying and act as an upstander. **Cybersecurity & Privacy Project** (2 classes | E5-SYS-SE-13)

	● Create a program to demonstrate how to solve a real-world cybersecurity issue. **Cryptography Escape Room** ● Learn basic cryptography and solve multiple ciphers. **Cybersecurity Policy and Laws** ● Explain policies and how they relate to their classroom or school, and research and explain a cybersecurity law specific to their state. **Digital Responsibility: Owning Your Choices** ● Identify online dangers and demonstrate how to make responsible choices to stay safe. **Digital Reputation and Identity** (E5-DAT-IM-11) ● Analyze how online actions affect digital reputation and explain how to protect personal data and digital security. **Digital Etiquette and Teamwork** ● Explain digital etiquette and demonstrate proper digital etiquette appropriate to the medium. **Screen Time: Academics and Evidence** (E5-SOC-ET-17) ● Explain how screen time affects learning and study habits, create a healthy screen-time plan, and write an opinion about the most important screen-time rule supported with reasons. **Safety & Responsibility Quiz (5 questions)**

Unit 4: Impacts of Computing (5 lessons)

In this module, students examine how computing drives innovation and global collaboration, exploring careers in mobile app development.

Objectives / Topics Covered	● Explain how technology influences culture and communities. ● Examine how technology can be designed to serve diverse users. ● Modify code to improve a mobile app or game. ● Collaborate digitally to improve a program.
Lessons	**Impacts of Computing: Innovation** (E5-SYS-IM-15, E5-SOC-HI-16) ● Explain how technology and culture influence each other and create a project that compares past and present versions of a technology, explains its cultural impacts, and predicts how emerging technologies may affect different communities. **Technology for Everyone** (E5-SOC-HI-16) ● Examine how technology can be designed to be accessible and useful for people with diverse needs and abilities. **Careers in CS: Mobile Apps** (E5-SOC-CE-19) ● Analyze and improve a game by modifying code and adding new functionality. **Collaborating Globally** (2 classes | E5-PRO-PD-05, E5-SOC-CE-19) ● Collaborate with people from another community to create an advertisement. **Impacts of Computing Quiz (5 questions)**

Unit 5: Data & Analysis (5 lessons)

This module focuses on helping students find, evaluate, organize, and use digital information responsibly. Students develop data literacy skills by collecting and analyzing data, creating visualizations, managing digital files, evaluating the reliability of information, and giving proper credit to sources.

Objectives / Topics Covered	● Search for information online and provide proper attribution. ● Follow the inquiry process to investigate data. ● Modify a program to display results with a line graph. ● Analyze data to draw conclusions and make predictions. ● Explain how digital data is stored and where it can be saved.
Lessons	**Use and Search the Right Way**

	• Search for information to answer questions online and provide proper attribution to sources. **Inquiry Project: Line Graph (**2 classes | E5-DAT-DI-10) • Follow the inquiry process and modify a program to display the results of their investigation. **Data Analysts** • Evaluate data for reliability and then analyze the data to draw conclusions and make predictions. **File Management and Data Exploration** • Explain that different types of digital data take up different amounts of space and identify where digital data can be stored. **Data & Analysis Quiz (5 questions)**

Unit 6: AI Exploration (5 lessons)

In this module, students examine AI capabilities and limitations, analyze machine learning models, and explore ethical considerations of generative AI.

Objectives / Topics Covered	• Analyze how training data impacts AI predictions. • Evaluate the benefits and challenges of AI products. • Compare human and computer abilities. • Describe the pros, cons, and responsible use of generative AI.
Lessons	**Machine Learning: Analyzing** (2 classes | E5-ALG-ML-02) • Train and interact with an AI model using Teachable Machine and analyze the relationships between the properties of training data and an AI model's output. **AI Products: Ethical and Responsible Choices** (E5-ALG-IM-03, E5-DAT-IM-11, E5-SOC-ET-17) • Describe how AI products work and analyze the benefits and challenges of various AI products from multiple perspectives. **Humans vs. Machines** (Unplugged | E5-SOC-HU-18) • Compare and contrast human and computer performance on similar tasks, explain the advantages and limitations of technology, and describe computer perception. **Ethical and Responsible Use of Generative AI** (Unplugged | E5-SOC-ET-17) • Describe the pros and cons of generative AI and complete a class Code of Conduct to follow when using AI. **AI Exploration Quiz (5 questions)**

4th - 5th Grade Course Supplemental Materials

Resources	**Description**
Parent Welcome Letter (Spanish)	Send this letter home to introduce families to their new computer science curriculum.
Warm-Up Activities	This warm-up activity slide deck provides 5-10 minute problems aligned with computer science skills to engage students at the start of class, allowing teachers to preview or review concepts with answer keys and discussion tips included in the Speaker Notes.
Program Self-Assessment (Spanish)	This is a student self-assessment tool designed to help K-6 learners reflect on their programming projects, evaluate their skills in algorithms, debugging, collaboration, and reflection, and set goals for improvement.
Peer Review Resources (Spanish)	This provides structured worksheets to facilitate student feedback during collaborative coding projects. It encourages reflection by guiding students to

	highlight successes, ask questions, and offer constructive feedback on their partner's work.
Lesson Reflection & Computational Thinking (Spanish)	This guides students in engaging with computational thinking concepts, preparing for discussions, reflecting on lessons, and applying their learning to real-world problem-solving.
Design-Your-Own-Lesson Templates	Empower your students to explore and express their knowledge creatively with our versatile graphic organizer templates. Designed with adaptability and ease of use in mind, these interactive tools transform any subject into an engaging, hands-on learning experience.
These resources and more are found on the **CodeHop Resources Page**.	